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(72) Inventors:
• **de Caluwe, Robert Corneel Julia Maria**
1840 Londerzeel (BE)
• **Varlet, Jean-Luc André Patrick**
1180 Uccle (BE)

(71) Applicant:
THE PROCTER & GAMBLE COMPANY
Cincinnati, Ohio 45202 (US)

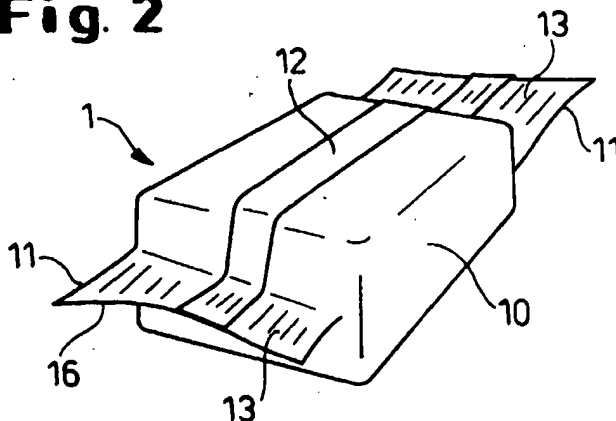
(74) Representative:
Engisch, Gautier et al
BVBA Procter & Gamble Europe SPRL,
Temselaan 100
1853 Strombeek-Bever (BE)

(54) **Package with child deterrent means**

(57) The present invention is directed to a packaged consumer product being the combination of an openable package, and at least one unit of a consumer product, preferably at least one detergent tablet, said package being made out of a film that is folded and closed, said packaged consumer product being characterized in that, the package comprises a gustative child deterrent means. In one preferred embodiment of the present invention, the package further comprises a structural means, for example rectilinear cuttings at the

distal sealed extremities of the package. Most preferably said structural child deterrent means is used in combination with the gustative child deterrent means. The nasty-tasting substance that is used as gustative child deterrent means has no effect on human or animal health, and dissolves preferably only in human fluids such as sweat or saliva. Optionally but preferably, the package is a flow-wrapped package.

Fig. 2



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Description

Field of the invention

[0001] The present invention relates to a package for containing tablets of detergent that comprises a child deterrent means.

Background of the invention

[0002] Flow-wrap unitary packages for containing at least one tablet of detergent are representative of the various packages to which the present invention can apply; such packages are typically made, for example, out of a plastic, or paper-coated film that is folded and longitudinally sealed, so as to form a tube into which at least one unit of a consumer product, for example a detergent tablet is inserted. The tube is then closed at each of its two distal extremities by the means of distal seals that are perpendicular to the longitudinal seal. Furthermore, due to the packing process, the unitary packages are produced from a continuous film, and so they are separated by distal cuttings that are made in the region of the distal sealings.

[0003] Unitary packages for detergent tablets are well-known and used in the art. Such unitary flow-wrap packages are typically made as described above. However, they present some disadvantages. Detergent tablets generally use a composition of chemical compounds that can be dangerous if ingested. This is more particularly true in the case of young children that tend to be attracted by small flow wrap unitary packages, and that are more likely to try and open the package, access the tablet and bite/ingest it. Moreover, in the case of young children, the effect of chemicals may be even more damaging for their health. Furthermore, the unitary tubes are usually formed from a long roll of film, then filled with tablet(s). They are then sealed and cut to be separated from each other. The cuttings at the distal ends of one unitary pack usually contain indentations that are to be used by the consumer as facilitating means for the opening by hands. However, such facilitating means also facilitates access to the tablet for young children, and thus increases the risk of poisoning. One means that has been applied to avoid such poisoning is the use of non-oriented packaging films. Such films are known as being difficult to tear open without using a tool, or without applying a tearing strength such that it that shall be applied only by an adult.

[0004] It is known that most young children, that is to say below the age of 6, use their teeth as a tool when encountering difficulties in opening a package with hands, and more particularly when said package is made of a film. In such cases, even if the packaging material is resistant to tearing, for example a non-oriented film, they manage to tear it open in a few minutes using their teeth.

[0005] The following reference is directed to a unit of

detergent for automatic dish-washing packaged in a film: EP-0-700989, Procter & Gamble, filed 12 September 1994 (D1): it discloses a detergent unit, for example a tablet, for use in automatic dish-washing machines, that is packaged inside a film. The package is not to be opened, and the tablet is used while still packed. For that purpose, the film is made of a water-soluble material, which is completely dissolved only after reaching the main wash of the wash cycle. In one embodiment of the invention, the film is coated with a nasty-tasting substance to be used as a child deterrent means, thus avoiding accidental ingestion of the whole package, including the tablet by young children.

[0006] The above document, while solving some issues, is intended only for use without being opened. But such a child deterrence does not apply to a package that is constructed so that it must be opened before using the contents. There is still a need for such a packaging film for a detergent unit to be opened only by adults and not by children, that uses the fact that most children try to open such packages with their teeth.

[0007] It is therefore one main object of the present invention to provide the user with an openable package for containing units of consumer products to be opened before use of the contents, such as detergent tablets, that comprises means that prevent young children from opening, while being openable by adults.

Summary of the invention

[0008] The present invention is directed to a packaged consumer product being the combination of an openable unitary package, and at least one unit of a consumer product, preferably at least one detergent tablet, said package being made out of a film that is folded and closed, said packaged consumer product being characterized in that the package comprises a gustative child deterrent means. In one preferred embodiment of the present invention, the package further comprises a structural means, for example rectilinear cuttings at the distal sealed extremities of the package. Most preferably, said structural child deterrent means is used in combination with the gustative child deterrent means. The nasty-tasting substance that is used as gustative child deterrent means has no effect on human or animal health, and dissolves preferably only in human fluids such as sweat or saliva.

Brief description of the drawings

[0009] The invention will now be explained in detail with reference to the following accompanying figures which are referred to as:

- Figure 1A: which is an enlarged top view showing a distal extremity of a package that features indented cuttings.
- Figure 1B: which is an enlarged top view showing a

distal extremity of a package that features wave-shaped cuttings.

- Figure 2: which is a general perspective view of a parallelepipedic package according to the invention, with parallel distal sealed extremities.
- Figure 3: which is a general perspective view of a tetraedric package according to the invention, with perpendicular distal sealed extremities.

Detailed description of the invention

[0010] Now referring to figure 2, a package (1) is shown that comprises a package body (10) and at least two distal ends (11). The package is made out of any suitable film material such as coated paper, or plastic film made out of, for example polyethylene or polypropylene, that can be mono or bi-oriented, but that is preferably non-oriented. The package can be made out of one single material or out of a combination of several materials. Unlike the package of D1, the package according to the present invention needs to be opened in order to access the contents before use of said contents.

The package can have any size that is suitable for containing at least one unit of a consumer product that is considered as dangerous, such as for example detergent compositions, pesticides, insecticides, or medicines. Said unit is either non particulate solids such as tablets or briquettes or bars, or under the form of a powder or granulates, or even under a liquid form. In one preferred embodiment of the present invention, the package is intended to be used for containing at least one detergent tablet for use in laundry or dish-washing purposes. Such tablets are usually considered as dangerous consumer products, if ingested. Said tablet may have any suitable shape, but is preferably symmetrical so as to ensure complete and uniform dissolution in the wash liquor during the wash cycle. The detergent may be of any suitable composition, and may comprise for example surfactants, suds suppressors, bleaches, builders, enzymes, fillers, and perfumes.

A unit of a consumer product, such as a unit of detergent product is typically defined as a dosed quantity of said detergent suitable for use during one wash cycle. For example, when using an automatic washing machine, for dish or laundry, the user will put one tablet inside the washing machine that will dissolve during the wash cycle, with action onto the dishes or the clothes, for example. However, more than one unit may be used for one wash cycle, for example in extreme dirtiness of items to wash, amount of items to wash, or hardness of water.

[0011] The present invention is applicable to packages suitable for packing a dose of a dangerous consumer product, which are made out of a film which is closed by sealings, and more preferably, a flow-wrapped package.

[0012] The process of making such flow wrap pack-

ages is well-known and used by those skilled in the art. Such a process typically comprises for example, the steps of forming a tube from a roll of film, making a longitudinal sealing (12) along the great length of the film, so as to create a tube, seal and cut in a first portion all along the width of the tube so as to create a pocket into which the contents is introduced. Finally, a second portion of the tube is sealed and cut so as to close and detach a unitary package that comprises the longitudinal sealing (12) and two distal sealed extremities (11). It is obvious that variations of this process are well-known and used in the art of making flow wrap packages, depending for example on the nature of the contents. For example, powders, or liquids are most preferably filled in a tube that is vertically formed, filled and sealed, while solid contents are generally fed in a tube that is horizontally formed, filled, and sealed. Further, the overall shape of the package (1) may vary, for example the package (1) can be parallelepipedic, when the distal sealed extremities (13) are parallel (i.e., located along the same plane), as shown in figure 2. Another example of shape is shown in figure 3: the package (1) is tetraedric, when the distal sealed extremities (13) are located in perpendicular planes.

[0013] The sealings either the longitudinal one, or along the distal extremities of the package, can be made by the means of heat sealing, or by cold sealing. Cold sealing is performed by using the properties of the packaging film to stick onto itself, or by using a cold glue with excellent tacking properties, so that no heat is required for the sealing, but only pressure applied by the sealing jaws. Both cold and heat sealing are well-known in the art. Any other suitable sealing process can be applied such as, for example, ultrasonic sealing. It is possible to adapt the quality of a sealing, depending on the use that is to be made of said sealing. Variations shall be dosed and applied during the sealing operation, by modifying for example the time, temperature or pressure of the sealing jaws onto the film, or the surface of the sealings as well. For example, some sealings are made such that it is easy to peel them off (i.e. delaminate them) for easy opening of the package. However, in the package (1) according to the present invention, the sealings shall preferably be made in such a way that peeling the seal off requires tearing strength and movements coordination that cannot be applied by a young child, but only by an adult. It is not the purpose of the present description to give the appropriate parameters for achieving such sealings, since such parameters can be dosed and applied by a person skilled in the art.

[0014] The package (1) may further comprise a structural child-deterrent means that makes said package non-obvious for a child to open with his hands. Several ways of achieving said structural means shall be applied to the present invention, that are described in the following examples.

[0015] In a first embodiment, the distal extremities of the package comprise rectilinear cuttings (16), as

shown in figures 2 and 3. In a second embodiment, the structural child-deterrent means is achieved by wave-shaped cuttings (15) at the distal extremities of the package, as shown in figure 1B. In both of these embodiments, it is difficult to open the package by using hands for tearing the packaging film in the region of these cuttings, because there is no weak point along the film edges that could be used for initiating a tear and then create an opening. This is even more difficult for a young child. Optionally but preferably, the packaging film is non-oriented, so as to improve the difficulty to open the package using hands only. A tool, or at least a certain strength is required to tear and open the package, said certain strength being such that it is only applicable by an adult.

While preferred embodiments of the present invention comprise rectilinear or wave-shaped distal cuttings, indented cuttings (14), as shown in figure 1A, may also be used, but in combination with non-oriented film, so as to create a structural child-deterrence. In such a package, while the indentations could be used as a facilitating means by an adult for initiating a tear in the film and then an opening, the non-oriented film is too difficult to tear open by a young child.

[0016] It has been shown that young children who encounter difficulties in opening a package with their hands, typically use their teeth as a cutting/tearing tool, and most of them succeed in the opening operation in a few minutes. This is why the package according to the present invention is provided in at least one portion, with a nasty-tasting substance that is present at the surface of the packaging film, said substance being dissolved by human fluids such as sweat or saliva, and said substance being particularly repulsive to children. Several ways to add such a substance to the package shall be applied, such as those described in the following two examples.

[0017] In one embodiment of the present invention, the nasty-tasting substance is directly incorporated as an ingredient of the packaging material during the manufacturing process of the film. The substance immediately dissolves into the child's saliva when she/he bites into the package, having a repulsive effect so that the child will leave the package alone, without further attempts to open the package.

In another embodiment of the present invention, the packaging film is coated with the nasty-tasting substance which is applied for example under the form of a lacquer, alternatively but preferably, the nasty-tasting substance is contained into micro-capsules that are incorporated into the coating lacquer, said coating lacquer being applied onto the package surface. Such micro-capsules are not broken by contact with a neutral surface, but only split and release the nasty-tasting substance, when contacting such human fluids as sweat or saliva. Such a system of micro-capsules leads to different preventing means. Firstly, when the child is handling the package, the sweat that coats the surface of her/his

hands dissolves said micro-capsules, thus releasing the nasty-tasting substance. Then, when puffing her/his fingers into the mouth, as children typically do while playing or exploring an item, the substance will have a repulsive effect on the child. Secondly, it has been shown that when children do not manage to open a package with their hands, they use their teeth as an opening tool. When doing so, the micro-capsules are to split and release the nasty-tasting substance into the children's mouth, thus leading to the repulsive effect as previously described.

[0018] In the most preferred embodiment of the present invention, the child-deterrent effect is best achieved by a package (1) that combines a structural child-deterrent means as previously described, with releasable nasty-tasting substance applied onto and/or into the package. The former means logically leading the child to use the latter one. For example, when the package (1) comprises rectilinear cuttings (16) at the distal extremities (11), a child will have difficulties in tearing the film since no weak points along the film edges can be found. Then, the child tends to use her/his teeth as a tool to open the package and then she/he tastes the nasty-tasting substance, is repulsed and leaves the package alone.

[0019] Any substance shall be applied to the present invention that combines the properties of firstly, having a repulsive taste to humans or animals, while secondly being exempt of danger for human or animals health. Furthermore, it has been shown that small children are particularly sensitive to and repulsed by substances that have a bitter taste. This is the reason why such substances are preferred amongst the wide variety of substances available and suitable to the purpose of the present invention. An example of such a substance is denatonium benzoate (or Bitrex®), (N-[(2-[2,6-Dimethylphenyl)amino]-2-oxoethyl]-N,N-diethylbenzylmethan-aminium benzoate [3734-33-6]).

40 Claims

1. An openable packaged consumer product, said openable package (1) comprising a film which is folded and closed, being characterized in that said package (1) further comprises a gustative child deterrent means.
2. An openable packaged consumer product according to claim 1, wherein said package (1) further comprises a structural child deterrent means.
3. An openable packaged consumer product according to claims 1 and 2, wherein said structural child deterrent means is achieved by rectilinear cuttings (16) at said distal extremities (13) of said package (1).
4. An openable packaged consumer product accord-

ing to claims 1 and 2, wherein said structural child deterrent means is achieved by wave-shaped cuttings (15) at said distal extremities (13) of said package (1).

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5. An openable packaged consumer product according to any of the preceding claims, wherein said structural child deterrent means is achieved by making the package (1) out of non-oriented thermoplastic film. 10
6. An openable packaged consumer product according to any of the preceding claims, wherein said gustative means is achieved by coating at least one portion of the film with a lacquer containing a nasty-tasting substance. 15
7. An openable packaged consumer product according to any of the preceding claims, wherein said nasty-tasting substance is contained into micro-capsules. 20
8. An openable packaged consumer product according to claims 1 to 5, wherein said gustative means is achieved by incorporating a nasty-tasting substance as an ingredient of the packaging material. 25
9. An openable packaged consumer product according to any of the preceding claims, wherein said nasty-tasting substance is released only by action of sweat or saliva. 30
10. An openable packaged consumer product according to any of the preceding claims, wherein the nasty-tasting substance is denatonium benzoate. 35
11. An openable packaged consumer product according to any of the preceding claims, wherein said openable package (1) contains a tablet of consumer product. 40
12. An openable packaged consumer product according to any of the preceding claims, wherein said consumer product is a detergent composition. 45
13. An openable packaged consumer product according to any of the preceding claims, wherein the openable package (1) is a flow-wrapped package (1). 50
14. A process of using a packaged consumer product according to any of the preceding claims, wherein the process requires the opening of said package prior to the use of said consumer product. 55

Fig. 1A

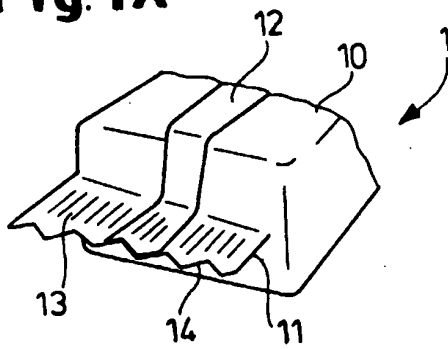


Fig. 1B

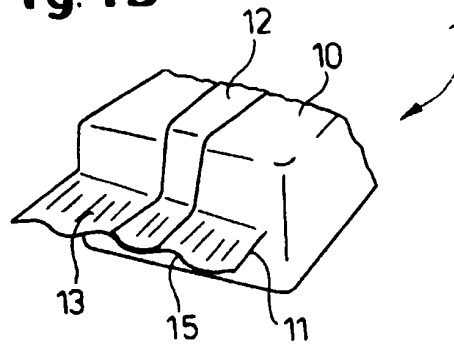


Fig. 2

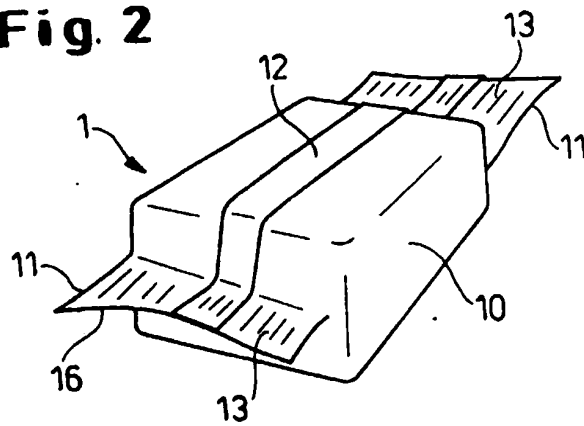
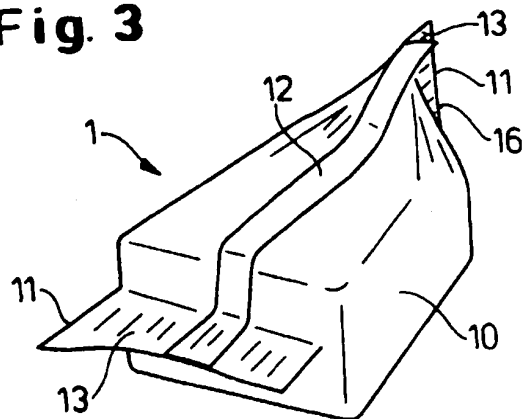


Fig. 3





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EUROPEAN SEARCH REPORT

Application Number
EP 98 20 2078

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
D,X	EP 0 700 989 A (PROCTER & GAMBLE) 13 March 1996 * page 3, column 4, line 51 - page 4, column 5, line 13 *	1,6,8,9, 11-13	B65D75/12
Y	---	2-5,7, 10,14	
X	DE 296 12 148 U (SICHART FRANZ) 4 December 1997 * page 3, line 8 - page 3, line 12 * * page 3, line 36 - page 4, line 38 * * figure 1 *	1,6,8,9, 11-13	
Y	WO 97 02993 A (OLIN CORP) 30 January 1997 * page 2, line 7 - page 3, line 22 * * page 6, line 3 - page 7, line 24 * * figures 1-3 *	2-4,14	
Y	GB 2 198 062 A (ACRATHANE PROD LTD) 8 June 1988 * abstract *	7	
Y	PATENT ABSTRACTS OF JAPAN vol. 097, no. 012, 25 December 1997 & JP 09 208858 A (PENTEL KK), 12 August 1997 * abstract *	10	TECHNICAL FIELDS SEARCHED (Int.Cl.6) B65D
Y	EP 0 291 065 A (PRESTO PRODUCTS INC) 17 November 1988 * page 3, line 42 - page 3, line 58 *	5	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 17 November 1998	Examiner Farizon, P
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